What is claimed is:

1. A ferromagnetic p-type single-crystal zinc oxide material including a transition metal element consisting of Mn, and a p-type dopant.

2. A ferromagnetic p-type single-crystal zinc oxide material including a transition metal element consisting of Mn, a p-type dopant, and an n-type dopant.

3. A method for manufacturing a ferromagnetic p-type single-crystal zinc oxide material as defined in claim 1, in which when an atomic gas from a solid-state source of Zn or Zn oxide and an activated oxygen are supplied onto a semiconductor substrate to grow a single-crystal zinc-oxide thin film on the substrate, an atomic p-type dopant and an atomic Mn are supplied all together onto the substrate.

4. A method as defined in claim 3 for manufacturing a ferromagnetic p-type single crystal zinc oxide material as defined in claim 2, in which the n-type dopant is doped so as to provide a higher concentration of the p-type dopant than that of the n-type dopant.